CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the above-referenced application:

1. (Currently amended)   A rate adaptive system for optical fibre-based communication networks comprising:

a plurality of optical transceivers capable of transmitting and receiving optical signals at a plurality of rates to each other, and

an optical fibre linked to said optical transceivers, said system configured to cause said optical transceivers to transmit and receive optical signals at an initial rate and to adapt said initial rate based upon an error condition responsive to a failure to synchronize a received signal to a transmitted signal by causing said optical transceivers to transmit and receive at a different rate, a rate of data being forwarded per unit time being adjusted by inserting invalid data which can be identified and ignored by a downstream process, wherein said initial rate is lowered according to a predefined percentage of said initial rate in response to said failure to synchronize a received signal to a transmitted signal, said system further comprising an identification mechanism that identifies the rate adaptive system as such when the rate adaptive system is introduced to an optical fibre-based communication network to avoid the overhead associated with auto-negotiation methods that operate over a control channel.

2. (Canceled)

3. (Previously presented)   The system of claim 1, wherein said system is further configured to calculate an error coefficient based on said received signals, and said error condition comprise said error coefficient exceeding a predefined range.

4. (Canceled)

1   5.   (Previously presented)   The system of claim 1, wherein said
2   percentages are selected from the group of 75, 50 and or 25 percent of said initial rate.

1   6.   (Previously presented)   The system of claim 1, wherein said initial
2   rate is 10 Gb/s.

1   7.   (Previously presented)   The system of claim 1, wherein said system
2   is configured to operate in an optical Ethernet network.

1   8.   (Previously presented)   The system of claim 1, wherein said system
2   is further configured to notify a network operator in the event of said error condition.

1   9.   (Currently amended)   A rate adaptive method for operating an
2   optical communication network, comprising:
3   transmitting data at an initial rate,
4   receiving said data at said initial rate,
5   evaluating said data responsive to a failure to synchronize a received signal to
6   a transmitted signal to determine if an error condition exists, and
7   adapting said rate based upon said evaluation by transmitting and receiving at
8   a different rate by inserting invalid data which can be identified and ignored by a
9   downstream process, wherein adapting said rate comprises lowering said initial rate
10   according to predefined percentages of said initial rate in response to said failure to
11   synchronize a received signal to a transmitted signal ~~to avoid the overhead associated~~
12   ~~with auto-negotiation over a control channel~~, and
1   <u>identifying the rate adaptive system as such when the rate adaptive system is</u>
2   <u>introduced to an optical fibre-based communication network.</u>

1   10.   (Canceled)

1   11.   (Previously presented)   The method of claim 9, further comprising
2   notifying a network operator in the event of said error condition.

12.-13.   (Canceled)

14.   (Previously presented)   The system of claim 1, wherein said system is further configured to identify a link in the optical fibre-based communication networks for an upgrade.

15.   (Previously presented)   The method of claim 9, further comprising identifying a link in the optical communication network for an upgrade.